

CLAIMS

1. A machine tool comprising a stationary part and a spindle rotatable relative to the stationary part, the
5 spindle having a shank receiving area for releasably accepting the shank of a cutter or other machine tool accessory, and comprising a first electrical link between the stationary part and the spindle, and a portion of a second electrical link at the shank
10 receiving area in electrical connection with the first link for providing in use a disconnectable electrical link between the spindle and the shank, wherein the portion of the second link is in the form of at least one electrical contact.

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2. A machine tool according to claim 1 wherein the first link and the portion of the second link are arranged to transmit either power or signals, or both power and signals.

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3. A machine tool according to claim 1 or 2 wherein the first link and the portion of the second link each have two paths, one for the transmission of power and the other for the transmission of signals.

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4. A machine tool according to claim 1,2 or 3 wherein the first link is an inductive link having complementary inductors which in use of the machine have relative displacement, one of the inductors being mounted to the spindle and the other of the inductors being mounted to the stationary part.

5. A machine tool according to any one of claims 1-4 wherein the receiving area is in the form of a cavity

having an opening and a rear area furthest from the opening and wherein the portion of the second link is disposed closer to the rear area than to the opening.

5 6. A machine tool according to claim 5 wherein the portion of the second link is disposed at the rear third of the cavity.

10 7. A machine tool according to any preceding claim, wherein the at least one electrical contact is in the form of a "C" shaped conductive element mounted to a non-conductive block at the shank receiving area.

15 8. A machine tool according to claim 7 wherein the block is releasably held at the area.

20 9. A machine tool shank for releasably mounting a machine tool cutter or other machine tool accessory to the spindle of a machine tool comprising a portion of an electrical link in the form of at least one electrical contact.

25 10. A machine tool shank according to claim 9 wherein the at least one electrical contact is in the form of a conductive element and a resilient support supporting the conductive element.

30 11. A machine tool shank according to claim 9 or 10 wherein the shank comprises an end closest to a location for attachment of the machine tool cutter or other machine tool accessory and an end distal from the location, wherein the said at least one contact is closer to the distal end than to the end for the said attachment.

12. A machine tool shank according to claim 11 wherein the said at least one contact is in the third of the shank closest to the distal end of the shank.

5 13. A machine tool accessory having a shank for releasably mounting the accessory to the spindle of a machine tool comprising a portion of an electrical link in the form of at least one electrical contact, the accessory being supplyable with power, and/or having a
10 signal path, via the at least one electrical contact.

14. A measurement probe having a shank for releasably mounting the accessory to the spindle of a machine tool comprising a portion of an electrical link in the form
15 of at least one electrical contact, the accessory being supplyable with power, and/or having a signal path, via the at least one electrical contact.

15. A machine tool comprising a stationary part, a
20 spindle rotatable relative to the stationary part having a shank receiving area, a shank releasably acceptable to the shank receiving area, and a machine tool accessory attached to the shank, and comprising a first electrical link between the stationary part and
25 the spindle and a second electrical link at the shank receiving area being in electrical communication with the first link for providing in use a disconnectable electrical link between the spindle and the shank for providing power or a signal for the accessory, wherein
30 the second link is formed as two portions, one portion being mounted to the spindle the other portion being mounted to the shank, wherein each portion has at least one complementary contact for electrical communication between the two portions.

16. A machine tool according to claim 15 wherein either one or both of the or each complementary contacts is resiliently mounted.
- 5 17. A machine tool according to claim 15 or 16 wherein one of the complementary contacts is non-protruding.
- 10 18. A machine tool according to any one of claims 15-17 wherein the receiving area is in the form of a cavity having an opening and a rear area furthest from the opening and wherein the second link is disposed closer to the rear area than to the opening.
- 15 19. A machine tool according to claim 18 wherein the second link is disposed at the rear third of the cavity.
- 20 20. A machine tool according to claim 15 wherein alternating current passes through the first and second links at a frequency greater than approximately 20KHz.
- 25 21. A machine tool according to claim 20 wherein the frequency is approximately 100KHz.
- 30 22. A machine comprising a stationary part and a rotatable part continuously rotatable relative to the stationary part, the rotatable part having a coupling receiving area for releasably accepting the coupling of a tool or other accessory, and comprising a first electrical link between the stationary and rotatable parts and a portion of a second electrical link at the shank receiving area being in electrical connection with the first link for providing in use a disconnectable electrical link between the rotatable

part and the coupling of the tool or other machine accessory, wherein the portion of the second link is in the form of at least one electrical contact.